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Coral Reef Nurseries Company

HOMESTEAD : FLORIDA



"AVOCADOS WITH ANCESTORS"



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Recent Information Regarding the
Avocado

and REVISED PRICE LIST

FOREWORD

Since the publication of our most recent catalog there have been occurrences and developments which have given considerable additional information in connection with the propagation and culture of the avocado, and it is for the purpose of giving those interested in growing this fruit the benefit of such facts as have been gained that this bulletin has been prepared.

STANDARDIZATION OF GUATEMALAN VARIETIES

During October, 1917, the California Avocado Association published the report of a special committee to which had been delegated the task of selecting the varieties best suited for commercial propagation in California.

This committee made a careful comparison of the qualities of the very large number of named avocados grown in California, and limited its recommendations to varieties of the Guatemalan type. While the Mexican type has been quite largely grown in that state and still has its advocates, it was not included in the list of most promising commercial varieties, presumably on account of the small size, rather poor shipping qualities, and other defects as a market fruit. The West Indian or South American type of avocado has not proven adapted to California conditions, and it does not seem likely that its culture will ever assume commercial proportions there.

The report of the committee emphasizes the fact that the list of varieties recommended is of only a tentative character, as definite information regarding the qualities of a number of promising varieties is lacking. The suggestion is made that this list should be revised annually to include new varieties, the commercial importance of which may be demonstrated, and to exclude any of the varieties now recommended which may develop faults which depreciate their value to the industry.

The varieties recommended have been selected wholly from the standpoint of their commercial importance to the grower of avocados in California, and it is not at all certain that their qualities would have the same comparative merit when produced under Florida conditions. In fact, it has already been demonstrated that several varieties of the Guatemalan avocado which have not found particular favor in California, show much better comparative qualities when grown in Florida, and from the viewpoint of the Florida grower are at least of equal value to some of those included in the list recommended. There have also been several varieties of Guatemalan avocado fruited in Florida which have not as yet come into bearing in California and therefore did not come within the consideration of the committee. Among this number are two or three varieties which are entitled to equal consideration by the Florida grower with any of those named in the California list.

While the recommendations of this committee cannot, therefore, have the same weight with those engaged in avocado culture in Florida that they will have in California, the selections were very carefully made and are of much interest to the avocado grower, wherever he may be located.

LIST OF GUATEMALAN VARIETIES RECOMMENDED BY THE CALIFORNIA AVOCADO ASSOCIATION

Variety	Season in California	Shape	Color	Average W'ght in Ozs.	Percentage of Oil
Fuerte	January to August	Pyriform	Green	12-14	30.72
Spinks	April to August	Egg-shap'd	Purplish Black	16-20	16.46
Blakeman	April to August	Pyriform	Green	16-	17.27
Lyon	April to August	Pyriform	Dark Green	16-	16.31
Dickinson	June to October	Egg-shap'd	Purplish Black	12-	20.36
Taft	May to October	Pyriform	Green	16-	16.53
Sharpless	October to Feb'y	Pyriform	Dark Purple	20-	24.23
Puebla	December to Feb'y	Egg-shap'd	Dark Purple	8-10	26.68

RELATIVE RESISTANCE TO COLD OF SEVERAL VARIETIES

The very unusual cold weather which occurred at points along the lower East Coast of Florida during the winters of 1917 and 1918 has given opportunity for some very valuable observations as to the comparative resistance to low temperatures of the different avocado varieties propagated in these localities.

The cold of 1917 was particularly severe in the vicinity of Miami, while points only short distances to the north and south had only light frosts. Just how low the temperature did go in this "snap" is rather hard to determine, as at the localities which gave evidence of greatest damage to vegetation no records were taken. From two fairly authentic sources, temperatures of twenty-two degrees were reported, and it seems quite certain that this minimum was at least reached. West Indian avocados of practically all varieties were seriously injured, the extent of the damage depending upon the age of the trees and the comparative exposure of the exact locality. Trees up to two years of age were quite generally killed back to the ground, and older trees lost their foliage and young growth. In many cases the older wood up to two inches in diameter was killed or the bark badly split. The entire crop on the mainland in the vicinity of Miami for the following season was lost, but within one year after this freeze most of the bearing trees have put on a good growth and many of them have set a crop of fruit.

Such Guatemalans as were located within the area affected by this cold, showed a considerably greater immunity from injury than the West Indians, though some varieties lost most of their young growth. The McDonald, formerly known as Beardsley, was a conspicuous example of a variety of the Guatemalan type which came through the freeze practically undamaged and carried its fruit to full maturity late in the spring.

In January, 1918, the extreme southern portion of Dade County in the vicinity of Homestead, was visited by the coldest weather known since that section was first settled about twenty years ago. The lowest temperature recorded was 24 degrees, and this minimum was noted by several observers. This freeze was of a very local nature, and at

Miami, thirty miles north, the temperature dropped very little below 32 degrees.

At Medora Grove, from which source the Coral Reef Nurseries Company obtains a large proportion of its budwood, a minimum of twenty-four degrees was read at a height of five feet about the ground. At a lower elevation it is probable that an extreme in the neighborhood of twenty-two degrees was reached.

This temperature killed to the ground practically all West Indian avocados less than two years old. Guatemalans of the same age, budded on West Indian stock, were lost through being frozen below the bud. Where banked above the bud, young trees of this type generally escaped with loss of foliage and new growth. Five-year-old Trapp trees were killed back to trunks and main branches, and in numerous cases the bark was badly split near the ground. Trees of the Waldin variety proved considerably harder than Trapp, Pollock or Estelle, and lost only foliage and tender growth. Trapp and other West Indians older than five years were severely frozen back for a height of from five to seven feet above the ground, but the upper portions of such trees usually were very slightly damaged, and in some cases a crop of fruit has set in the tops this season. It has been particularly noted in a number of instances both at Medora Grove and at other plantings in same vicinity, that trees which were in vigorous growth suffered least, while those which were more or less dormant and apparently in most resistant condition, were most severely injured.

Nearly all of the West Indian trees which were not killed outright or did not have the bark of the trunk split, have made a good growth since the freeze and in most cases the damage will be confined to the loss of one crop and from one to two years' growth. Trees which were pruned as soon after the freeze as the extent of the injury could be definitely determined have made a much better recovery than those which were left unpruned.

A large number of Guatemalan and Mexican varieties were under observation at Medora Grove and an excellent opportunity was afforded to note the ability of these trees to withstand the cold. Many of these varieties were two-year-old grafted trees propagated on six and seven-year-old stocks of the West Indian type, and were of about the same size as five or six-year-old budded trees. The varieties were so mixed in the plantings that there was little in favor of one variety over another as to relative exposure.

At the date of the freeze five varieties of Guatemalans at Medora Grove were carrying full crops of fruit. These were the Fuerte, Taylor, Collins, Colla and Winslow. Of these the Taylor lost none of its crop and the trees were free from any damage except the singeing of a very few lower leaves. Fuerte lost no fruit, but a few days after the freeze it was observed that the stems of some of the fruit near the ground were slightly frosted. These fruit were then picked and shipped, selling on the New York market at a price to net over twenty dollars per crate f. o. b. Homestead. Slight scorching of the foliage was the extent of the injury to the Fuerte trees. Some of these trees were in bloom at the time of the freeze and this bloom was damaged about fifty per cent. Collins and Winslow dropped practically all of their fruit within ten days after the freeze. The Collins fruit matured so as to be edible after dropping, but the Winslow did not. These trees lost some foliage and a small amount of tender wood. Colla dropped fruit from the lower branches and had foliage considerably

scorched, but carried its crop to maturity on the upper portions of the trees.

Of the other varieties of Guatemalans in this planting, Taft, Perfecto, Grande, Atlixco and Wagner were so little injured as to be practically unnoticeable. All of these varieties have set full crops this season. ✓ Solano, ✓ Sinaloa, Surprise, McDonald (Beardsley) and Nutmeg, were slightly scorched, and in a few instances had tender growth frosted, but the damage was negligible. Several of these varieties set full crops after the freeze. ✓ Meserve and ✓ Oro were quite badly frosted and lost part of their young wood, and the Knight varieties, ✓ Linda, ✓ Rey, ✓ Queen and ✓ Knight's 27, suffered to about the same extent. Three-year-old budded trees of ✓ Linda and Rey, on Mexican stock, were killed to the ground.

The Mexicans; ✓ Harman, ✓ Ganter, ✓ Northrop and San Sebastian, and the hybrid ✓ Puebla, as well as a number of Mexican seedlings, were entirely unhurt.

A conservative deduction from the effects of this cold upon the Guatemalan avocados at Medora Grove would be that trees of this type budded on West Indian stock, when four years of age or older, will, in the case of a number of the best varieties, withstand temperatures as low as twenty-four degrees without damage to fruit or tree, and without loss of the following season's crop.

ADDITIONAL INFORMATION REGARDING VARIETIES

✓ **TRAPP**—This variety continues to be the standard of the late maturing West Indian type, and we recommend it for general planting in all localities that are fairly exempt from temperatures below twenty-six degrees. The grower of any of the West Indian avocados in Florida will find it a paying investment to protect his trees from cold by installing adequate overhead irrigation, orchard heaters, or, in the case of young trees, banking well above the bud with sand. In one of the plantings of this company at Rockdale, Trapp and Waldin trees, very recently planted, were brought through a temperature of 27 degrees without injury except to foliage, by tying a light sheaf of grass around the bodies of the trees. The prices realized for Trapp avocados during the season of 1917 were such that the grower can sustain the loss of an occasional crop and still realize big profits at such figures.

— **WALDIN**.—The parent tree of this variety maintained its reputation by carrying a heavy crop in 1917. The fruit matured following the main crop of Trapps and a planting of these two varieties gives an ideal succession for market purposes. The parent tree and a number of grafted trees propagated from it passed through the cold of January, 1918, without serious injury, but lost their prospective crop for the following season.

✓ **FUERTE**.—A number of trees of this variety of Guatemalan avocado fruited at Medora Grove for the second time. One radical difference was observed in the second crop as compared with that of the previous season, both at Medora Grove and at the U. S. Experiment Station in Miami. The 1916 crop, on young trees, growing very vigorously, matured in November and December, while that of the season just past was held on the trees as late as the end of April. Some fruit, the stems of which were slightly frosted, were picked and marketed in January, and the main crop was mature a month later.

After March 1st there was considerable dropping, and it is thought that this variety can best be classed as a February avocado.

The fruit of the Fuerte is of the highest quality as to flavor and is of fair appearance, the elongated shape being slightly against it in this respect. The color of the fruit is green and it retains this color when fully mature. The trees have proven very hardy, vigorous and prolific in both California and Florida, and in the former state there are probably more Fuertes being planted than all other Guatemalans combined. In the Redland section of South Dade County, where the humidity is higher than in nearly any other part of Florida, the Fuerte fruit is somewhat susceptible to fungus diseases and the trees should be well sprayed during the blooming period to prevent anthracnose, and again just before maturity to head off black-spotting, which causes decay of the ripening fruit. The fruit of unsprayed trees at Medora Grove was much disfigured by anthracnose, though the fruit thus affected matured perfectly, while fruit on trees sprayed with Bordeaux just after blooming, was clean of any anthracnose markings and averaged one-third larger than the unsprayed fruit. It is quite probable that in other parts of Florida there will be much less difficulty with these diseases, for there seems to be no trouble of this kind reported in regard to Fuerte in California. Even should it be necessary to spray the trees of this variety in order to secure perfect fruit, its many fine qualities recommend Fuerte as one of the best of Guatemalan varieties so far developed.

✓ **TAYLOR.**—This variety, originally propagated at the U. S. Experiment Station at Miami, probably as a seedling from Challenge, fruited for the second time at Medora Grove. The first crop on three-year-old trees matured during November, 1916, and the variety was not highly thought of on this account, as the season conflicted with that of Trapp and other late West Indians. The second crop, on more fully developed trees, matured in February and some specimens remained without dropping until late in April. The season for Taylor will probably be late February and throughout March, following closely after Fuerte in the market.

Taylor trees were undamaged by the cold of January, 1918, and did not drop their fruit. A full crop has set again this season. The fruit is pyriform in shape, dark green in color, and the surface of the skin is somewhat roughened. Weight from 14 ounces to 20 ounces. Seed of medium size. The flesh is light yellow in color, free from fiber and of good flavor. The oil content is not so high as that of Fuerte and some of the other Guatemalan varieties, but exceeds that of the West Indians. The fruit is apparently very resistant to fungus diseases. We recommend this variety for extensive planting in Florida. The Taylor should not be confused with the Winslow, an avocado of entirely different character formerly propagated and sold by some nurseries under the name of "Taylor."

✓ **SOLANO.**—Grafted trees of this variety fruited at Medora Grove during the fall of 1917. The fruit was of medium size, obovate shape and averaged slightly over one pound in weight. The skin is smooth, dark green in color and of less woody texture than many Guatemalans. The flesh is yellow, buttery and free from fibre. The oil content is not high, but the flavor is excellent. This is one of the finest appearing avocados of the Guatemalan type. The trees are sturdy growers, resistant to cold and good bearers. The only serious

defect found in connection with Solano is its early season of maturity, and it is thought that the second crop now on the trees will quite probably mature much later than the first.

PERFECTO.—Fruited at Medora Grove in October and November, 1917. Trees growing very rapidly probably accounted for earlier season of maturity than normal. Fruit pyriform in shape, dark green in color, skin somewhat roughened and rather thick and woody. Quality of flesh good. The trees of this variety were practically unaffected by the January, 1918, freeze and have set a very heavy crop this season. On the basis of performance to date, the Perfecto is apparently well adapted to Florida conditions, and promises to be one of the leading Guatemalan varieties.

TAFT.—The bearing trees of this variety were almost entirely uninjured at twenty-four degrees. A fair crop of fruit has been set this season. Taft is one of the Guatemalans which is accepted by all California authorities as a standard commercial variety and there seems no doubt that it is to maintain the same reputation in Florida.

ATLIXCO.—Fruiting at Medora Grove this season. The trees are very rapid growers and are inclined to take a more upright form than is wholly desirable. The Atlixco is one of the most frost resistant of the Guatemalans and from present indications is going to be an early and heavy bearer.

WAGNER.—Grafts of this variety set in the spring of 1917 have made a splendid growth and are carrying large crops this season. Aside from the singeing of a few leaves the trees sustained no damage from the cold. The fruit is smaller than that of some of the other Guatemalans, but is said to be of fine quality.

SAN SEBASTIAN.—Trees of this variety have proven themselves the most rapid growers of any of the Mexican type. One San Sebastian graft on six-year-old West Indian stock at Medora Grove is eighteen feet in height at two years of age and has outstripped other Guatemalans and Mexicans a year older. The fruit is larger than that of most of the Mexican avocados, and is of fair quality.

GANTER.—Fruiting this season at Medora Grove and in our nurseries at Rockdale on budded trees one year old. While not so rapid in growth as San Sebastian, the trees are sturdy and well-shaped, and the variety is recommended for home planting in the north and central part of Florida.

MEXICAN SEEDLINGS.—A large number of these seedlings in our nursery are fruiting when one year old, which is in marked contrast with their California habit. In that state no fruit is expected from a Mexican until the fourth or fifth year. Mexican seedlings should prove hardy enough to withstand the winter in any portion of Florida and are recommended for home planting in the northern section of the state.

CHOICE OF BALLED OR BOXED TREES

All avocados and mangos at our Rockdale Nurseries are grown in the open. When trees are prepared for shipment our customers are given the choice of plants growing in boxes or plants with balled roots. When those with balled roots are ordered the trees are removed from the field nursery with a patent digger and the ball of earth surrounding the roots is firmly encased in burlap. The trees are

then held for a week or more under partial shade to become dormant before shipping. In planting trees with balled roots the burlap is not removed and the root system is thus undisturbed.

When trees growing in boxes are preferred the plants are dug and reset in boxes. They are then held in our slat houses for at least a month until they have become thoroughly re-established and have made one growth, before being sent out. We carry a stock of nearly all varieties growing in boxes ready for shipment, but on large orders sufficient time should be given to provide for the removal of the trees from the field nursery and the necessary period of re-establishment.

Balled trees are more easily planted than those growing in boxes, and freight and express charges are less per tree. The soil in our nurseries is a heavy sand, mixed with a small proportion of clay, and when balled trees are transplanted into light, sandy soil, unless rains are frequent after the trees are set, there is some danger of their suffering for water. Water poured on the trees in the usual way tends to run off into the more porous sand leaving the ball containing the roots with insufficient moisture. Our boxed trees are dug with naked roots and re-established in light loamy soil so that there is not the danger of water running away from the roots into the surrounding sand. On heavy soils the above objection to trees with balled roots does not apply.

In transplanting trees growing in boxes, one of two methods is commonly used. After thoroughly wetting the earth in the box, the sides may be split and the box removed, the tree being at once placed in the hole prepared for it and the surrounding soil firmly packed in. Or the bottom of the box may be removed and the tree placed in its permanent position with the sides remaining to hold the earth around the roots. Several months later when the tree has begun to grow these sides may be split off and pulled out of the ground without disturbing the new root system which has grown through the open bottom of the box.

Customers when placing orders should specify whether balled or boxed trees are desired.

**REVISED PRICE LIST FOR FALL OF 1918
AND WINTER OF 1919**

WEST INDIAN VARIETIES	Each.	20 or more.	100 or more.
Trapp, 9-year record buds.....	\$1.50	\$1.45	\$1.40
✓ Trapp, 4-year record buds.....	1.25	1.20	1.15
Waldin	1.50	1.45	1.40
Pollock	1.25	1.15	1.00
Estelle	1.25	1.15	1.00

GUATEMALAN VARIETIES, ON WEST INDIAN STOCK

✓ Taft	1.50	1.40	1.30
✓ Fuerte	1.50	1.40	1.30
Taylor	1.50	1.40	1.30
Solano	1.50	1.40	1.30
✓ Perfecto	1.50	1.40	1.30
✓ Collins	1.50	1.40	1.30
✓ Colla	1.50	1.40	1.30
✓ McDonald (Beardsley).....	1.50	1.40	1.30
✓ Atlixco	1.50	1.40	1.30
✓ Wagner	1.50	1.40	1.30
✓ Sinaloa	1.50	1.40	1.30
✓ Grande	1.50	1.40	1.30
✓ Surprise	2.50	2.30	2.20
✓ Sharpless	2.50	2.30	2.20
✓ Puebla	2.50	2.30	2.20
✓ Meserve	2.50	2.30	2.20
✓ Oro	2.50	2.30	2.20
✓ Spinks	2.50	2.30	2.20
✓ Cook	2.50	2.30	2.20
✓ Queen	2.50	2.30	2.20
✓ Linda	2.50	2.30	2.20
✓ Knight's	2.50	2.30	2.20
✓ Rey	2.50	2.30	2.20

MEXICAN VARIETIES ON WEST INDIAN STOCK

✓ Ganter	2.50	2.30	2.20
✓ San Sebastian	2.50	2.30	2.20
✓ Harman	2.50	2.30	2.20
✓ Northrup	2.50	2.30	2.20

GUATEMALAN OR MEXICAN VARIETIES

On Guatemalan or Mexican Stock..	5.00	4.50	4.00
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GUATEMALAN OR MEXICAN SEEDLINGS

(When available).....	1.50	1.25	1.00
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MANGOS

✓ Hayden	\$1.50	\$1.25	\$1.10
✓ Mulgoba	1.50	1.25	1.10
✓ Amini	2.00	1.75	1.50
✓ Sundersha	2.00	1.75	1.50
✓ Paheri	2.00	1.75	1.50
✓ Cambodiana	2.00	1.75	1.50

On orders for less than three trees (our standard single package) an additional charge of 50c will be made to cover crating.

